



Proposed 2016 Outsourced Pavement Preservation Program (OP3)



Public Works & Utilities
Maintenance Division

Proposed 2016 Outsourced Pavement Preservation Program (OP3)

Contents

Introduction	3
Outsourced Pavement Preservation Program Project Selection Process.....	3
Traditional Approach	3
1. Pavement Condition Index (PCI)	3
2. Completion of Locations Previously Identified	4
3. Stakeholder Requests	4
4. Maintenance History and Other Programs.....	4
Enhanced Approach.....	4
1. Continued Emphasis on Residential Thermal Crack Repair	4
2. Continued Emphasis on Preventive and Preservative Maintenance.....	4
3. Pilot Projects	6
4. Investment Optimization	7
2016 Outsourced Pavement Preservation Program Summary.....	7
Definitions.....	7
1. Crack Seal.....	7
2. Concrete Repair	8
3. Micro Surfacing Seal and Fiber-Reinforced Micro Surfacing Seal.....	8
4. Preservative Seal.....	9
5. Scrub Seal.....	9
6. Thermal Crack Repair.....	10
Proposed Expenditures	10
Network Funding/Expenditures Summary.....	10
District Expenditures Summary	11
Network Impact Summary	11
Proposed Locations.....	12
Outsourced Pavement Preservation Location Map.....	18

Proposed 2016 Outsourced Pavement Preservation Program (OP3)

Introduction

The City of Wichita's paved street network is comprised of more than 5,000 lane-miles of residential, collector and arterial streets and expressways, representing a total paved area in excess of 322 million square feet. In order to cost effectively maintain this vast network of assets, the City supplements the critical preventive, corrective and emergency maintenance efforts of its internal staff by leveraging the resources and expertise of private contractors. Each year outsourced pavement maintenance efforts are proposed and submitted for approval in the Outsourced Pavement Preservation Program (formerly the Contract Maintenance Program, or CMP). In order to effectively manage both internal and external pavement maintenance resources, the Public Works & Utilities (PW&U) Department has always striven to effect "the right treatment, on the right road, at the right time". But, just as socioeconomic and technological influences continue to evolve, so too does the department's approach. At present, the department is continuing its development and implementation of a project selection, evaluation, and reporting process that will be:

1. More objective, relying greater on economic measures like return on investment (ROI) and remaining service life (RSL), and less on subjective measures like "good", "satisfactory", or "poor"
2. More supportive of experimentation and less adherent to past practice
3. More likely to incorporate new technologies
4. Better able to quantify the cost of deferred maintenance
5. Better able to maximize the City's returns on future investments
6. Better able to assist in the identification of optimum funding levels

Outsourced Pavement Preservation Program Project Selection Process

Traditional Approach

Locations to be addressed in the Outsourced Pavement Preservation Program (OP3) have traditionally been determined using the following criteria.

1. Pavement Condition Index (PCI)

Every street segment in the City is reviewed and assigned a PCI number. The PCI number can range from 0 to 100, and is determined by evaluating each segment for various pavement distresses.

Traditionally, a PCI value of 70 has been considered satisfactory. Streets with PCIs below 70, and especially below 50, were formerly considered first for inclusion in the OP3. PCIs were also used to guide preventive maintenance, but only as funding allowed. (Preventive maintenance delays streets from dropping into a lower condition range, which averts significantly more costly repair.)

Proposed 2016 Outsourced Pavement Preservation Program (OP3)

2. Completion of Locations Previously Identified

If repairs to previously programmed locations are not able to be completed, they are typically included in the following year's OP3.

3. Stakeholder Requests

Stakeholder requests are continually evaluated and prioritized against competing demands and existing commitments. Qualifying locations are addressed either in-house, or via the OP3, as resources allow.

4. Maintenance History and Other Programs

Streets that have required extensive mitigation by City staff, or for which routine maintenance operations are no longer effective, also receive special consideration. Streets that are scheduled for repair or replacement via other programs, such as the Capital Improvement Program (CIP), are not included in the OP3.

Historically, OP3 expenditures were distributed equally among the City's six council districts. While not overtly a criterion, the practice was prioritized above other considerations, and thus had a profound effect on project selection.

Enhanced Approach

As part of ongoing efforts to maximize the City's return on continued investments, several enhancements are proposed anew, or for continued exploration in 2016.

1. Emphasis on Arterial Thermal Crack Repair

Thermal crack repairs provide a low cost solution to one the City's most severe and frequently occurring pavement issues. The City's residential thermal crack repair effort was substantially completed in 2015. In response to positive customer feedback, a similar multi-year effort will commence on the City's major arterial streets in 2016.

2. Continued Emphasis on Preventive and Preservative Maintenance

While preventive maintenance has historically been programmed as funding allows, it is apparent that, in order to ensure maximum return on investment, preventive maintenance must be made a priority. Much like maintaining a functional roof over one's home, the cost to maintain a good road, in good condition, is far less than the cost to rehabilitate a failed one. For example, a preservative seal can extend the service life of a good pavement by approximately 5 years, at a cost around \$1/sy, whereas milling and overlaying a bad pavement may extend the service life just 8-12 years, at a cost of \$10-\$15/sy. When applied to a hypothetical, quarter mile section of 4-lane arterial roadway (1 lane mile) the total cost to preservative seal the section at \$1/sy would be \$7,040. The total cost to mill and overlay the same section of roadway (7,040 sy) at a later date, assuming a midrange unit cost of \$12/sy, would be \$84,480. Assuming service lives of 5 and 10 years, respectively, one finds that it costs

Proposed 2016 Outsourced Pavement Preservation Program (OP3)

just \$1,408 to add one full lane-mile-year of service life by preservative sealing, while the cost to add the same one lane-mile-year of service life via mill and overlay is six times higher, at \$8,448.

When one considers, again, that the City's paved street network consists of roughly 5,000 lane-miles of pavement, the financial prudence of preventive maintenance is clear. Each of the City's paved lane-miles has but a limited number of years remaining until the end of its useful service life. Thus, in the absence of any maintenance improvements over a one year period, we can surmise that the remaining service of each lane-mile will be reduced by one year. Applied across the entire network, this represents a total service life reduction of 5,000 lane-mile-years, each year. Pavement preservation treatments, as well as rehabilitative repairs and reconstruction, however, add service life to the network. In order to offset the annual loss, the City must add at least 5,000 lane-mile-years back to the system through its maintenance efforts each year. Any less, results in an overall decline of the network's condition. Any more, and the overall condition improves.

While the City employs numerous strategies in its approach to pavement management, for the purpose of example, we'll examine a simplified approach using four common treatments, including the two previously described, in the table below.

Treatment	Type	Approx. Cost/SY	Approx. Service Life Extension (Years)	Lane-mile-years Needed to Maintain Status Quo	Lane Miles to be Treated	Cost to Maintain Status Quo (Using prescribed treatment alone)
Rejuvenating Seal	Preventive	\$1	5	5000	1000	\$7,040,000
Micro Surfacing	Preventive	\$3	6	5000	833	\$17,592,960
Mill & Overlay	Rehabilitation	\$12	10	5000	500	\$42,240,000
Asphalt Reconstruction	Reconstruction	\$35	25	5000	200	\$49,280,000

While none of the above hypothetical approaches is optimized for the City's existing network, the exercise serves to illustrate three points.

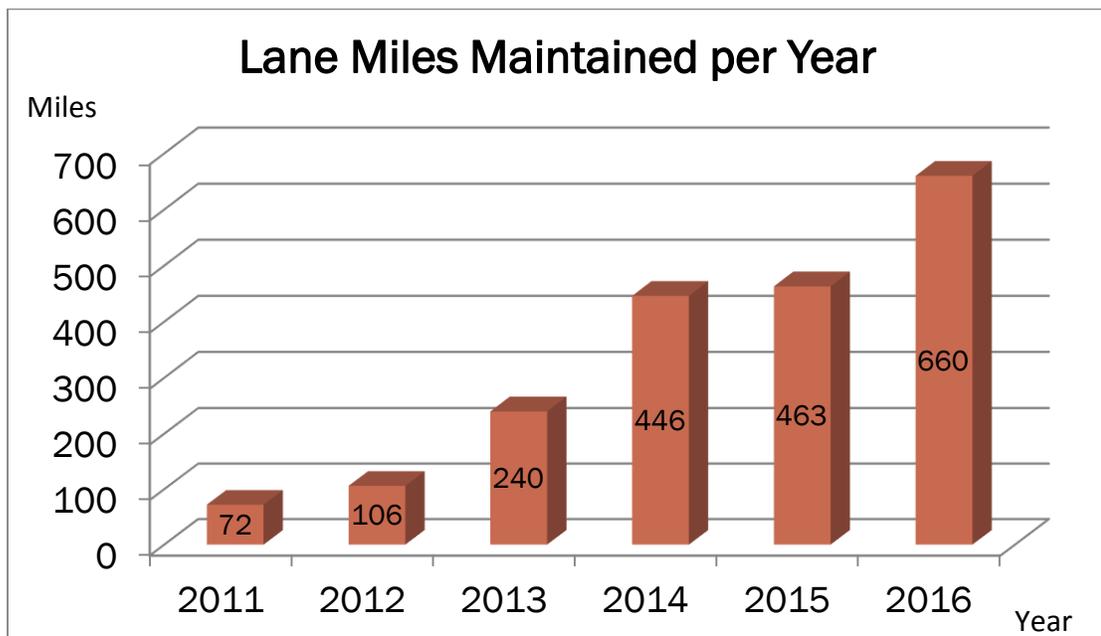
1. Preventive and preservative maintenance are better financial values than extensive rehabilitation and replacement.
2. To successfully operate under the best of these scenarios – the one that serves to maximize ROI – one would need to begin with a near perfect system and maintain 20% of that system each year. In reality, less than 20% of our existing system falls within the appropriate condition range for that treatment. Consequently, we must endeavor to

Proposed 2016 Outsourced Pavement Preservation Program (OP3)

employ some optimum combination of treatments across the full spectrum of pavement condition.

3. The example serves to demonstrate the scale of maintenance required and alludes to the cumulative impact of deferred maintenance.

In light of the benefits, preventive and preservative maintenance have increased significantly since 2011. The result has been a dramatic increase in the total number of lane miles maintained each year. As demonstrated below, approximately 660 lane miles will be touched in 2016, which is more than nine times the number touched in 2011.



3. Pilot Projects

PW&U is committed to the evaluation and incorporation of new pavement maintenance strategies and techniques. A number of treatments were successfully piloted in 2015. In order to further evaluate the department's developing mitigation strategy (mitigating streets in poor condition, rather than undertaking significantly more costly rehabilitation and reconstruction), several treatments are proposed for additional testing in the coming year, as follows:

1. Micro surfacing seal over scrub seal (mitigation)
2. Fiber reinforced micro surfacing seal (mitigation)
3. Fiber reinforced micro surfacing seal over scrub seal (mitigation)

Additionally, given its low initial cost and high overall ROI, a significant portion of the 2016 program is proposed to be dedicated to crack sealing. Historically, crack sealing has been performed almost exclusively in-house. Consequently, a large-scale outsourcing of the work

Proposed 2016 Outsourced Pavement Preservation Program (OP3)

represents a pilot in and of itself. It is expected that lessons learned during 2016 will impact both the size and nature of future outsourced crack sealing efforts.

4. Investment Optimization

Ongoing economic pressures have exposed the limitations of the City's traditional use of PCI. The PCI effectively illustrates network trends, but in and of itself does not allow for an objective means of characterizing streets as "failed", "deficient", or "in need of repair". More importantly, it does not afford an objective means of quantifying the cost of deferred maintenance. In order to accurately and objectively do so, an approach other than PCI is needed.

PW&U believes the City will be best served by evaluating economic measures, rather than PCI alone. Toward that end, the department has developed a computerized investment optimization model. The model allows staff to analyze and compare various alternative maintenance approaches in terms of ROI, RSL and asset value. Using these measures, priorities, strategies and budgets may be optimized in terms of their long-term fiscal performance. Staff's evaluation of alternative approaches is ongoing and driven by the department's commitment to identify:

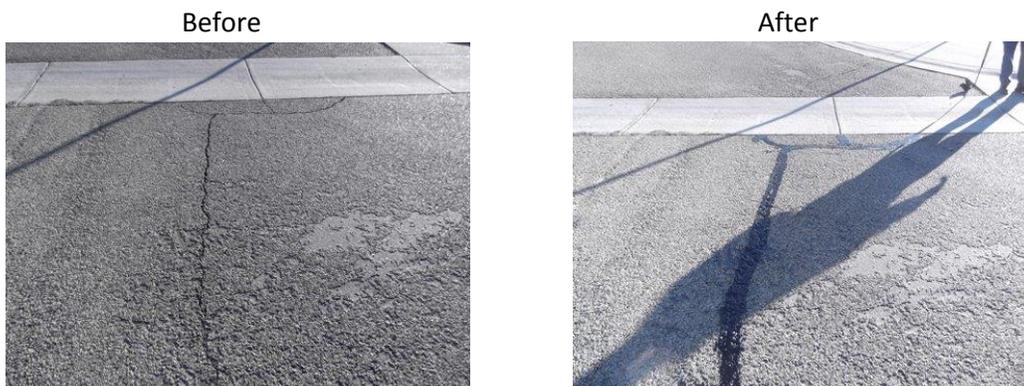
1. The short and long term results of the department's existing strategy and budget
2. The strategy and budget required to maintain current condition and asset values
3. The strategy and budget that results in the optimum ROI

2016 Outsourced Pavement Preservation Program Summary

Definitions

1. Crack Seal

"Crack Seal" is an application of hot liquid rubberized asphalt material placed into or above moderately sized pavement cracks. The treatment is used to prevent moisture infiltration in order to mitigate the occurrence of further distresses and reinforce the adjacent pavement.



Proposed 2016 Outsourced Pavement Preservation Program (OP3)

2. Concrete and Asphalt Repair

“Concrete repair” and “asphalt repair” includes the limited full-depth removal and replacement of concrete or asphalt pavement, in order to address myriad pavement distresses, including spalling, pop-outs, and base failures.

Before



After



3. Micro Surfacing Seal and Fiber-Reinforced Micro Surfacing Seal

A “micro surfacing seal” is a mixture of relatively large aggregate, polymer modified emulsion, mineral filler and additives are combined and applied to an existing pavement using a specialized mixing and paving machine. The treatment is used to reduce water penetration, correct minor surface irregularities, improve aesthetics and extend the useful life of underlying pavement. Polyester or fiberglass fibers may be cut and added to the mix in order to enhance durability and better deter reflective cracking.

Before



After



Proposed 2016 Outsourced Pavement Preservation Program (OP3)

4. Preservative Seal

A “preservative seal” consists of the application of an emulsion specially formulated to penetrate, restore and preserve existing asphalt binders. By keeping the pavement flexible, it serves to seal against water intrusion, inhibit oxidation and improve aggregate retention.

Before



After



5. Scrub Seal

A “scrub seal” is constructed by spraying emulsified asphalt onto an existing pavement, dragging a broom across the surface to scrub the emulsified asphalt into the surface cracks, spreading aggregate over the emulsified asphalt, and rolling the surface with a roller. The treatment is used to quickly and affordably crack fill streets with extensive surface cracking.

Before



After (outside lane, only)



Proposed 2016 Outsourced Pavement Preservation Program (OP3)

6. Thermal Crack Repair

“Thermal crack repair” consists of repairing large cracks in full-depth asphalt pavements by removing the top two inches of pavement and installing a pavement interlayer reinforcement system beneath a new layer of asphalt. The interlayer reinforcement deters the crack from reflecting back through the renewed surface.

Before



After



Proposed Expenditures

Proposed 2016 outsourced pavement preservation expenditures total \$8 million. Funds totaling \$4.0 million are included in the 2016 Adopted Public Works & Utilities General Fund operating budget for Pavement Maintenance. The remaining \$4 million for 2016 will be funded with GO at-large bonds and is included in the 2015-2024 Adopted Capital Improvement Program (CIP).

Network Funding/Expenditures Summary

Funding	Expenditures	Percentage
General Fund (\$4 million)		
Crack Seal	\$2,202,000	27.5%
Preservative Seal	\$537,000	6.7%
Micro Surfacing Seal	\$383,000	4.8%
Asphalt Pavement Spot Repair	\$172,000	2.2%
Engineering Salaries & Overhead	\$306,000	3.8%
Contingency	\$400,000	5.0%
CIP (\$4 million)		
Concrete Street Repair	\$1,929,000	24.1%
Micro Surfacing Seal	\$841,000	10.5%
Thermal Crack Repair	\$770,000	9.6%
Engineering Salaries & Overhead	\$460,000	5.8%
Total Funding	\$8,000,000	100.0%

Proposed 2016 Outsourced Pavement Preservation Program (OP3)

District Expenditures Summary

Project	District					
	1	2	3	4	5	6
Crack Seal	\$274,000	\$529,000	\$64,000	\$292,000	\$567,000	\$476,000
Concrete Street Repair	\$595,000	\$0	\$812,000	\$0	\$0	\$522,000
Micro Surfacing	\$167,000	\$326,000	\$0	\$683,000	\$48,000	\$0
Thermal Crack Repair	\$138,000	\$159,000	\$132,000	\$143,000	\$58,000	\$140,000
Preservative Seal	\$19,000	\$125,000	\$18,000	\$150,000	\$170,000	\$55,000
Asphalt Street Repair	\$0	\$69,000	\$0	\$0	\$103,000	\$0
Engineering OH/Salary	\$142,000	\$127,000	\$130,000	\$140,000	\$92,000	\$135,000
Contingency	\$67,000	\$67,000	\$67,000	\$66,000	\$67,000	\$66,000
Total Expenditures	\$1,402,000	\$1,402,000	\$1,223,000	\$1,474,000	\$1,105,000	\$1,394,000
% of Total Expenditures	17.5%	17.5%	15.3%	18.4%	13.8%	17.4%
% of Total Paved Network in District	17.7%	17.6%	15.4%	18.3%	14.2%	16.7%

Network Impact Summary

Project	Arterial Lane Miles	Residential Lane Miles	Total Lane Miles
Crack Seal	117.33	382.12	499.45
Concrete Street Repair	0	15.21	15.21
Micro Surfacing	15.99	18.66	34.65
Thermal Crack Repair	41.33	0	41.33
Preservative Seal	43.01	21.00	64.01
Asphalt Street Repair	4.04	1.20	5.24
Totals	221.70	438.19	659.89

Proposed 2016 Outsourced Pavement Preservation Program (OP3)

Proposed Locations

District I			
STREET	FROM	TO	PROJECT
10TH ST N	MADISON AVE	SPRUCE AVE	Concrete Repair
10TH ST N	NEW YORK AVE	HYDRAULIC AVE	Concrete Repair
11TH ST N	ERIE AVE	CHAUTAUQUA AVE	Concrete Repair
11TH ST N	HARDING AVE	WILLIAMSBURG CIR	Concrete Repair
12TH ST N	OLIVER AVE	GLENDALE AVE	Concrete Repair
15TH ST N	ERIE AVE	CHAUTAUQUA AVE	Concrete Repair
16TH ST N	POPLAR AVE	GREEN ST	Concrete Repair
18TH ST N	SPRUCE AVE	GROVE AVE	Concrete Repair
CHAUTAUQUA AVE	MURDOCK AVE	8TH ST N	Concrete Repair
E MURDOCK AVE	CHAUTAUQUA AVE	LORRAINE AVE	Concrete Repair
ELM ST	OHIO AVE	INDIANA AVE	Concrete Repair
ENGLISH ST	PATTIE AVE	LULU AVE	Concrete Repair
GILBERT ST	ESTELLE AVE	VOLUTSIA AVE	Concrete Repair
HYDRAULIC AVE	22ND ST N	23RD ST N	Concrete Repair
KANSAS AVE	LOOMAN AVE	24TH ST N	Concrete Repair
MINNEAPOLIS AVE	12TH ST N	13TH ST N	Concrete Repair
MINNESOTA AVE	EOP	MURDOCK AVE	Concrete Repair
OHIO AVE	3RD ST N	CENTRAL AVE	Concrete Repair
ROOSEVELT AVE	10TH ST N	9TH ST N	Concrete Repair
SPRUCE AVE	14TH ST N	15TH ST N	Concrete Repair
Reference Map (Numerous Locations)			Crack Seal
18TH ST N	LORRAINE AVE	HILLSIDE AVE	Micro Surfacing
1ST ST N	HILLSIDE AVE	ASH ST	Micro Surfacing
2ND ST N	HIGHLAND RD	BROOKSIDE PKY	Micro Surfacing
HILLSIDE AVE	21ST ST N	ALUMNI DR	Micro Surfacing
WOODLAWN AVE	21ST ST N	ROCKHILL LN	Micro Surfacing
45TH CT	45TH ST N	End of Pavement	Preservative Seal
GROVE ST	MURDOCK AVE	12TH ST N	Preservative Seal
MARBLEFALLS CT	MARBLEFALLS	End of Pavement	Preservative Seal
MARBLEFALLS ST	MARBLEFALLS CT	End of Pavement	Preservative Seal
OLIVER	21ST ST N	13TH ST N	Thermal Crack Repair
OLIVER	11TH ST N	9TH ST N	Thermal Crack Repair

Proposed 2016 Outsourced Pavement Preservation Program (OP3)

District II			
STREET	FROM	TO	PROJECT
Reference Map (Numerous Locations)			Crack Seal
21ST ST N	ROCK RD	WEBB RD	Micro Surfacing
27TH CT	BOULDER	ESSEX	Preservative Seal
BAYLEY ST	GREENWICH RD	DOWELL TER	Preservative Seal
BOULDER	27TH	EOP	Preservative Seal
BROADMOOR	KILLARNEY	CRESTHILL	Preservative Seal
CASA BELLA	CASA BELLA	EOP	Preservative Seal
CASA BELLA CT	EOP	EOP	Preservative Seal
CENTRAL AVE	WEST PKY	TARA LN	Preservative Seal
CHESTERFIELD	13TH ST	N END	Preservative Seal
CHURCHILL	CASTLE ROCK	SPLIT RAIL	Preservative Seal
CRESTHILL	CRESTHILL	BROADMOOR	Preservative Seal
ELM	ELM	EOP	Preservative Seal
ELM	RUTLAND	TALLYRAND	Preservative Seal
ELM	ELM	BROADMOOR	Preservative Seal
GLEN WOOD	WATSON	GLEN WOOD	Preservative Seal
GLEN WOOD CT	GLEN WOOD	EOP	Preservative Seal
GRAYSTONE	SUNDANCE	SUMMERFIELD	Preservative Seal
GREENWICH RD	27TH ST N	S of K-96	Preservative Seal
HARRY ST	127TH ST E	GREENWICH	Preservative Seal
HARRY ST	WOODLAWN BLVD	MISSION RD	Preservative Seal
HILDRETH	HILDRETH	WHITE OAK	Preservative Seal
IRONSTONE CT	IRONSTONE	EOP	Preservative Seal
LORI	CHERRY CREEK	LORI	Preservative Seal
ROCKHILL	BURNING TREE	ROCKHILL	Preservative Seal
SUMMERFIELD	GRAYSTONE	TERHUNE	Preservative Seal
TERHUNE	SUNDANCE	SUMMERFIELD	Preservative Seal
TIMBER LAKE CT	TIMBER LAKE RD	End of Pavement	Preservative Seal
TIMBER LAKE RD	127TH ST E	ZIMMERLY ST	Preservative Seal
WOODLAWN BLVD	BOSTON ST	HARRY ST	Preservative Seal
WOODRIDGE	27TH	WOODRIDGE CT	Preservative Seal
WOODRIDGE CT	WOODRIDGE	EOP	Preservative Seal
ZIMMERLY ST	127TH ST E	TIMBER LAKE RD	Preservative Seal
37TH ST N	WEBB	ROCK	Thermal Crack Repair
WEBB RD	13TH ST N	21ST ST N	Thermal Crack Repair

Proposed 2016 Outsourced Pavement Preservation Program (OP3)

District III			
STREET	FROM	TO	PROJECT
ANTLER AVE	SANTA FE AVE	MEAD AVE	Concrete Repair
BOSTON ST	SILVERDALE CT	WAVERLY RD	Concrete Repair
CASTLE DR	WAVERLY RD	PRAIRIE PARK RD	Concrete Repair
CHRISTINE RD	GRAND AVE	HARRY ST	Concrete Repair
ELPYCO AVE	KELLOGG DR S	ORME ST	Concrete Repair
FUNSTON	ROOSEVELT	BLUFF	Concrete Repair
GLENDALE AVE	EILERTS ST	ORME ST	Concrete Repair
GRAND AVE	WAVERLY RD	CHRISTINE RD	Concrete Repair
MORRIS ST	SAINT FRANCIS AVE	SANTA FE AVE	Concrete Repair
MORRIS ST	PERSHING AVE	DELLROSE AVE	Concrete Repair
MOSLEY AVE	BAYLEY ST	ZIMMERLY ST	Concrete Repair
OSIE ST	CHAUTAUQUA AVE	GEORGE WASHINGTON	Concrete Repair
PINECREST AVE	MOUNT VERNON RD	GRAMAR DR	Concrete Repair
PINERIDGE RD	SILVERDALE CT	GRAND ST	Concrete Repair
PRAIRIE PARK RD	ZIMMERLY ST	BOSTON ST	Concrete Repair
ROANOKE DR	OSIE ST	FUNSTON ST	Concrete Repair
SHIRK ST	PALISADE ST	End of Pavement	Concrete Repair
SILVERDALE CT	PINERIDGE RD	PINERIDGE RD	Concrete Repair
SKINNER	ROOSEVELT	BLUFF	Concrete Repair
WAVERLY RD	LINCOLN ST	HARRY ST	Concrete Repair
YALE ST	ORME ST	GILBERT ST	Concrete Repair
ZIMMERLY ST	WACO AVE	PALISADE ST	Concrete Repair
Reference Map (Numerous Locations)			Crack Seal
ELLIS AVE	43RD ST S	End of Pavement	Preservative Seal
ELLIS AVE	ELLIS CT	End of Pavement	Preservative Seal
ELLIS CT	ELLIS AVE	End of Pavement	Preservative Seal
GEORGIA ST	HYDRAULIC AVE	End of Pavement	Preservative Seal
WASHINGTON CT	47TH ST S	End of Pavement	Preservative Seal
WOODLAWN BLVD	E HARRY ST	E CALVIN DR	Preservative Seal
31ST ST S	OLVER	BLUFF	Thermal Crack Repair
OLIVER ST	CESSNA DR	NEW JERSEY DR	Thermal Crack Repair

Proposed 2016 Outsourced Pavement Preservation Program (OP3)

District IV			
STREET	FROM	TO	PROJECT
Reference Map (Numerous Locations)			Crack Seal
55TH ST S	SENECA ST	CHARLES ST	Micro Surfacing
AREA APPROX. BOUNDED BY PAWNEE, 31ST ST S, EVERETT, AND GLENN			Micro Surfacing
SENECA ST	MACARTHUR RD	47TH ST S	Micro Surfacing
WEST ST	BOLIN DR	MACARTHUR RD	Micro Surfacing
119TH ST	KELLOGG	PAWNEE AVE	Preservative Seal
44TH ST S	MOUNT CARMEL	CHASE	Preservative Seal
CUSTER CIR	44TH ST S	End of Pavement	Preservative Seal
KELLOGG	111TH ST W	119TH ST W	Preservative Seal
LARK	PRESCOTT	End of Pavement	Preservative Seal
LARK CT	LARK	End of Pavement	Preservative Seal
MONTECITO	End of Pavement	NINEIRON	Preservative Seal
MONTECITO CIR	NINEIRON	End of Pavement	Preservative Seal
NINEIRON	End of Pavement	End of Pavement	Preservative Seal
SIENA	End of Pavement	End of Pavement	Preservative Seal
MAIZE RD	31ST ST S	K-42	Thermal Crack Repair
SENECA ST	47TH ST S	55TH ST S	Thermal Crack Repair

Proposed 2016 Outsourced Pavement Preservation Program (OP3)

District V			
STREET	FROM	TO	PROJECT
21ST ST N	TYLER	CRESTLINE	Asphalt Spot Repair
Reference Map (Numerous Locations)			Crack Seal
18TH ST N	RIDGE RD	BITTERSWEET LN	Micro Surfacing
BITTERSWEET CT	BITTERSWEET LN	End of Pavement	Micro Surfacing
BITTERSWEET LN	RIDGE RD	TONY LN	Micro Surfacing
BRUNSWICK CIR	BITTERSWEET LN	End of Pavement	Micro Surfacing
WESTFIELD AVE	MAPLE ST	ROLLING HILLS DR	Micro Surfacing
135TH ST W	21ST ST N	13TH ST N	Preservative Seal
135TH ST W	CENTRAL AVE	MAPLE ST	Preservative Seal
21ST ST N	E of 135TH ST W	W of 135TH ST W	Preservative Seal
37TH ST N CT	EOP	37TH ST N	Preservative Seal
BLACKSTONE	PRICE	OBSIDIAN	Preservative Seal
BLACKSTONE	OBSIDIAN	BLACKSTONE	Preservative Seal
BRUSH CREEK CIR	End of Pavement	WESTLAKES PKY	Preservative Seal
BRUSH CREEK CT	BRUSH CREEK CIR	End of Pavement	Preservative Seal
BRUSH CREEK CT	End of Pavement	BRUSH CREEK CIR	Preservative Seal
CANDLEWOOD CT (E)	CANDLEWOOD ST	End of Pavement	Preservative Seal
CANDLEWOOD CT (W)	CANDLEWOOD ST	End of Pavement	Preservative Seal
CANDLEWOOD ST	CANDLEWOOD CT	End of Pavement	Preservative Seal
CHAMBERS ST	FONTANA ST	PARK RIDGE ST	Preservative Seal
FONTANA ST	LANDON CIR	End of Pavement	Preservative Seal
HAVENHURST ST	WYN WOOD DR	End of Pavement	Preservative Seal
JAYSON	CITY VIEW	KENNEDY	Preservative Seal
KACKLEY CIR	KACKLEY	EOP	Preservative Seal
KACKLEY CIR	PEPPER RIDGE	EOP	Preservative Seal
KACKLEY CT	KACKLEY	KACKLEY	Preservative Seal
KAP ST	KAP ST	WESTPORT ST	Preservative Seal
KENNEDY	JAYSON	FAWNWOOD	Preservative Seal
KENNEDY	KENNEDY	JAYSON	Preservative Seal
KENNEDY	KENNEDY	JAYSON	Preservative Seal
KENTUCKY CT	KENTUCKY LN	End of Pavement	Preservative Seal
KENTUCKY LN	WILLOUGHBY CIR	WESTPORT ST	Preservative Seal
OBSIDIAN	OBSIDIAN	BLACKSTONE	Preservative Seal
PARK RIDGE ST	FONTANA ST	CHAMBERS ST	Preservative Seal
TYLER RD	29TH ST N	37TH ST N	Preservative Seal
WESTLAKES CT	WESTLAKES PKY	End of Pavement	Preservative Seal
WESTON ST	End of Pavement	HAVENHURST ST	Preservative Seal
WESTPORT ST	KAP ST	KENTUCKY LN	Preservative Seal
WILLOUGHBY CIR	End of Pavement	WILLOUGHBY ST	Preservative Seal
WILLOUGHBY ST	WILLOUGHBY CIR	End of Pavement	Preservative Seal
119TH ST W	CENTRAL AVE	MAPLE ST	Thermal Crack Repair

Proposed 2016 Outsourced Pavement Preservation Program (OP3)

District VI			
STREET	FROM	TO	PROJECT
16TH ST N	WOODLAND AVE	BURNS AVE	Concrete Repair
23RD ST N	RIVERLAWN	COOLIDGE	Concrete Repair
24TH ST N	COOLIDGE	AMIDON	Concrete Repair
ATHENIAN AVE	DOUGLAS AVE	1ST ST N	Concrete Repair
BURNS AVE	16TH ST N	17TH ST N	Concrete Repair
COOLIDGE	21ST ST N	25TH ST N	Concrete Repair
EDWARDS AVE	NEWELL ST	CENTRAL AVE	Concrete Repair
GORDON AVE	2ND ST N	3RD ST N	Concrete Repair
SAINT LOUIS ST	SAINT PAUL AVE	CLAYTON AVE	Concrete Repair
WACO AVE	24TH ST N	25TH ST N	Concrete Repair
WASHINGTON AVE	10TH ST N	11TH ST N	Concrete Repair
WOODROW CT	PERRY AVE	16TH ST N	Concrete Repair
Reference Map (Numerous Locations)			Crack Seal
2ND ST N	SAINT FRANCIS AVE	SANTA FE AVE	Preservative Seal
AMIDON AVE	29TH ST N	21ST ST N	Preservative Seal
CURTIS	CURTIS CT	HOOVER	Preservative Seal
CURTIS CT	End of Pavement	CURTIS	Preservative Seal
MASCOT AVE	End of Pavement	33RD ST N	Preservative Seal
SAINT FRANCIS AVE	2ND ST N	DOUGLAS AVE	Preservative Seal
MERIDIAN AVE	61ST ST N	KEYWEST ST	Thermal Crack Repair
ZOO BLVD	SHERIDAN	GOW	Thermal Crack Repair

